

VITAL STATISTICS

OF

THE EAST INDIA COMPANY'S ARMIES IN INDIA, EUROPEAN AND NATIVE

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I MAY premise, that the whole of the following data are supplied from official sources in India; and the systematic manner in which, it would appear, the facts have been for so many years collected and recorded in India, affords a satisfactory guarantee, barring graphic errors, of the general accuracy of the record, indeed the absolute necessity that exists for every regiment accounting for every soldier upon its rolls, and the frequently recurring periodical musters, render mistakes extremely difficult; and I can, from my experience as an Adjutant and Commanding Officer, unhesitatingly express my conviction that non effective men in the Indian army could not escape observation.

I propose to arrange the documents now submitted to the Society in three distinct classes or sections. 1st. The Vital Statistics of the Bombay Native Army, at every age from 20 to 52, for the years 1842, 1843, and 1844. 2ndly The Vital Statistics of the Indian Army, European and Native, from 1825 to 1844, both inclusive. And, 3rdly The Vital Statistics of the Pension Establishments of the Native Armies of the three Presidencies.

The first class of documents was drawn up by the Military Auditor-General in Bombay, General Baird, with a view to determine the effect of the climate of Scinde upon the health of the troops employed in that province. The second class of documents results from an order of the House of Commons, upon the motion of Mr Hume; and the third class forms part of the periodical returns made from the Governments of India to the India House. The returns of the first and second classes comprise also the sickness and invaliding of the troops.

I cannot enter upon my subject without expressing in the strongest manner, my obligations to our valuable coadjutor, Mr. Neison, who, with that indefatigable perseverance, love of his subject, and readiness to oblige, of which he has already given us so many proofs, has laboriously worked out for me the tables which I shall have to notice.

The original returns of the first class, for the years 1842-3 and 1844, independently of the sickness, mortality, and invaliding of the soldiers from the ages of 20 to 52, of every regiment of the Bombay army, exhibit also all casualties from desertions, discharges, transfers, &c., together with the country and caste of every soldier, the station at which the regiment was located for each year, and the dates of arrival and departure. A distinct return is made for the troops serving in Scinde. As these Returns, from their lengthened and elaborate character, may not be adapted for the pages of the Society's Journal, I have deemed this explanation of their character called for: the more so, as I have reason to believe that returns of this kind are unique, whether relating to the India Company's Army or the Royal troops serving in India.

Even the reduced tables, arranged for every age, are adapted rather for the closet than for detailed explanation at a public meeting. I shall confine my notices, therefore, to an enumeration of the tables, and the final results of the whole Army for each year, and the mean results for the three years. Table I gives the absolute mortality of the Bombay Army at every year of age from 20 to 52, for the years

1842-3 and 1844. The total number of men in the year 1842 was 32,727, and the deaths 1,070, or 3.2 per cent. per annum. In 1843 the troops numbered 32,464, and the deaths 871, or 2.7 per cent. In 1844 the numbers were 33,970, and the deaths 732, or 2.25 per cent.; the deaths in all cases being inclusive of those from cholera. Table II works out the per centage mortality of the preceding table, at each age, showing that the maximum mortality was 6.25 per cent. in the year 1842, at the age of 51, while the two following years at that age gave respectively only 2.33 per cent. and 2.44 per cent.; the minimum at any age was 0.92 at the age of 50, in the year 1844, while in the preceding years it was respectively 3.64 and 5.93 at that age. Table III, results from Table II., and gives the mean mortality of the aggregate numbers at each age for three years. The mean maximum was at the age of 51, being 3.78 per cent.; the mean minimum being 2.20 per cent. at the age of 37. Table IV. gives the mortality of the troops serving in Scinde as distinguished from the mortality of the troops serving in other parts of the territory under the Bombay Government. The per centage is struck at every age of life, and upon the averages for quinquennial periods of life. At every age the mortality is found to be considerably enhanced, the mean maximum being 4.95 per cent. between the ages of 41 to 45, inclusive, the per centage for the ages 51 and 52 being nearly the same, the mean minimum 3.64 between the ages of 46 and 50, inclusive; and the mean of the whole mortality of the troops serving in Scinde, 4.33 per cent.

Table V gives the mortality of the troops who did not serve in Scinde, drawn up on principles similar to Table IV. The maximum mean mortality was 3.12 per cent. between the ages of 46 and 50 inclusive; the minimum, 1.81 per cent. between the ages of 36 and 40 inclusive, and the mean mortality of all ages, for the whole period, is 1.97 per cent.

It is hence shown that the healthiness of the native troops of the Bombay army, serving under their own Presidency, is nearly equal, according to Colonel Tulloch, to that of the health of the British troops at Malta, 1.87, and superior to that of the British troops at Gibraltar, 2.20, and the health of the troops serving in Canada, 2.00 per cent., and far superior to the health of the troops in the Ionian Islands, 2.83 per cent. It will be shown, however, that where the mortality of the Bombay army is deduced from a lengthened period, it is very much less than 1.97 per cent. Table VI. is based on the total column of Table I., and exhibits the mean of the Tables IV. and V., and gives the mortality of the whole Bombay army, whether serving in Scinde or elsewhere, for three years, for every age, and for quinquennial periods of life; the means being struck upon the accumulated totals of three years at each age. The mean maximum is 3.25 per cent. between the ages of 46 and 50, inclusive; the mean minimum 2.63 per cent. between 21 and 25, inclusive, and the mean mortality of all ages 2.729 per cent. Here we see that, inclusive of the effects of the climate of Scinde and the cholera, the mean mortality is less than that of the Royal troops in the Ionian Islands.

With respect to the country and caste of the troops constituting the Bombay army, it will be sufficient to give the chief features.

The Concan is the low land at the foot of the Ghâts, north and south of Bombay, and supplies a valuable class of Mahrattas as soldiers. The Deccan is the Mahratta country above the Ghâts, and I

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am surprised to find so few of the troops from it. Hindoostan furnishes six eighths of the whole army, the men being mostly Hindoos. Of castes, the Hindoos are 11 to 1 of the Moosulmans; the Low Castes constitute about one eighth. The Jews, although small in number, are valuable, from their steadiness and ability.

COUNTRY						RELIGION						
Concan	Goozrat	Deccan	Hundoostan	Madras	Malabar		Christians	Jews	Mosulmans	Hindoos	Low Castes	Parsees
12 121	542	2 118	10 308	238	117	1812	328	827	2 087	21 017	4 117	
12 010	535	2 060	10 808	218	152	1813.	310	821	2 000	21 798	1 176	11
11 061	591	2,027	17 308	200	101	1814	331	822	2 019	20 21	1 288	12

TABLE I *Absolute Mortality of the Bombay Army at every Age, from Age 21 to 52 inclusive, for the Years 1842, 1843, and 1844.*

Ages	1842		1843		1844		Total	
	Mean of Living	Deaths	Mean of Living	Deaths	Mean of Living	Deaths	Mean of Living	Deaths
21	5 942	199	6,110	192	6 679	149	18 131	540
22	2 968	84	2,834	67	2 959	45	8 761	1 6
23	2 976	82	3,026	70	3 018	50	9 050	202
24	2 457	71	2,796	72	2 856	71	8 109	217
25	1 983	66	2 216	70	2 320	12	6 519	178
26	1 456	45	1 725	52	1 765	24	1 946	121
27	1 012	29	1 331	28	1,407	38	3 783	95
28	682	39	875	23	897	28	2 151	90
29	520	12	610	21	618	16	1 778	62
30	418	19	466	12	431	17	1,378	48
31	379	9	319	8	366	8	1,09	25
32	510	13	362	12	386	4	1 258	23
33	692	21	457	11	494	10	1 641	42
34	863	32	606	17	627	8	2 102	57
35	1 104	46	929	18	925	25	2 958	89
36	1,015	34	924	26	953	20	2 892	80
37	1,019	26	996	28	973	12	2 988	66
38	891	35	879	11	938	34	2 711	83
39	768	29	721	10	736	21	2 225	60
40	709	35	738	20	721	18	2 171	74
41	544	11	586	18	630	10	1 760	39
42	523	14	441	12	466	11	1 130	40
43	519	26	453	10	450	15	1 128	51
44	392	20	419	7	422	11	1 233	38
45	344	18	355	9	370	10	1,069	37
46	283	11	278	7	283	6	844	21
47	234	12	225	7	230	7	689	26
48	206	5	223	7	216	11	615	23
49	171	4	157	6	149	2	480	12
50	135	8	110	4	109	1	351	13
51	96	6	86	2	82	2	261	10
52	253	6	215	8	247	3	715	17
	32 727	1 070	32 461	871	33 970	732		

Vital Statistics of the

TABLE II.

Age	Per Centage of Mortality in the Bombay Army during the Years—				Age	Per Centage of Mortality in the Bombay Army during the Years—			
	1842	1843	1844	Total		1842	1843	1844	Total
21	3.35	3.13	2.46	2.98	37	2.55	2.81	1.24	2.21
22	2.83	2.37	1.52	2.21	38	3.92	1.59	3.63	3.06
23	2.75	2.31	1.64	2.23	39	3.78	1.39	2.85	2.69
24	2.01	2.58	2.48	2.67	40	4.94	2.71	2.49	3.36
25	3.33	3.11	1.81	2.72	41	2.02	3.07	1.59	2.22
26	3.08	3.03	1.36	2.44	42	2.68	2.72	3.01	2.79
27	2.79	2.11	2.69	2.51	43	5.01	2.18	3.34	3.57
28	5.72	2.63	3.12	3.66	44	5.11	1.67	2.61	3.08
29	2.31	3.91	2.47	2.92	45	5.23	2.51	2.71	3.46
30	4.55	2.58	3.11	3.18	46	3.89	2.52	2.12	2.84
31	2.37	2.20	2.15	2.28	47	5.13	3.11	3.05	3.77
32	2.55	3.31	1.01	2.31	48	2.43	3.14	5.11	3.56
33	3.01	2.41	2.03	2.56	49	2.31	3.82	1.34	2.40
34	3.68	2.81	1.28	2.71	50	5.93	3.61	.92	3.67
35	4.15	1.91	2.71	3.01	51	6.25	2.33	2.44	3.78
36	5.37	2.82	2.11	2.77	52	2.37	3.27	1.22	2.28

TABLE III

Mean Mortality per Cent of the Bombay Army for 1842, 1843, and 1844.

Ages	Living	Deaths	Mortality per Cent	Ages	Living	Deaths	Mortality per Cent
21	18131	540	2.9785	37	2989	66	2.2081
22	8761	196	2.2371	38	2710	83	3.0627
23	9050	202	2.2320	39	2225	60	2.6966
24	8109	217	2.6761	40	2172	73	3.3610
25	6549	178	2.7183	41	1760	39	2.2159
26	4346	121	2.4161	42	1431	40	2.7953
27	3783	95	2.5112	43	1429	51	3.5689
28	2455	90	3.6660	44	1234	38	3.0791
29	1778	52	2.9216	45	1069	37	3.4612
30	1378	48	3.4833	46	841	24	2.8436
31	1091	25	2.2852	47	689	26	3.7736
32	1258	29	2.3062	48	645	23	3.5659
33	1613	42	2.5563	49	481	12	2.4948
34	2102	57	2.7117	50	354	13	3.6723
35	2058	89	3.0088	51	264	10	3.7879
36	2892	80	2.7758	52	715	17	2.2819
76886		2061		21041		612	

TABLE IV.

Mortality of Regiments of Bombay Army serving in Scinde, at each Age, with Average for every Fifth Year.

Ages	Population	DEATHS			
		At each Age		In Proportions	
		Total	Per Cent	Total	Per Cent
21	1,716	261	5.562		
22	2,613	82	3.178		
23	3,018	109	3.379	668	4.279
24	2,839	119	4.193		
25	2,335	98	4.198		
	15,611				
26	1,783	67	3.757		
27	1,478	60	4.050		
28	964	48	4.979	273	4.221
29	721	35	4.831		
30	560	23	4.107		
	5,500				
31	486	17	3.498		
32	507	15	2.958		
33	621	23	3.685	120	3.863
34	737	21	3.256		
35	985	50	5.076		
	3,339				
36	910	46	4.893		
37	922	42	4.555		
38	909	43	4.730	201	4.875
39	685	32	4.671		
40	667	38	5.697		
	4,123				
41	516	14	2.761		
42	376	13	3.458		
43	372	21	6.451	91	4.953
44	323	18	5.572		
45	281	25	8.897		
	1,898				
46	223	6	2.690		
47	191	4	2.091		
48	145	7	4.828	27	3.111
49	99	3	3.030		
50	83	7	8.133		
	741				
51	38	2	5.263		
52	103	5	4.851	7	4.961
	141				
Total	31,362			1,379	4.333

TABLE V.

Mortality of Regiments of Bombay Army not in Scinde at all during the Years 1842, 1843, and 1844, for each Age, and with Averages for every Fifth Year.

Ages.	Population	DEATHS			
		At each Age		In Periods	
		Total.	Per Cent	Total	Per Cent
21	13 384	276	2 062		
22	6 118	112	1 831		
23	6 002	99	1 649	665	1 901
24	5 270	98	1 859		
25	4 211	80	1 898		
	31,988				
26	3 163	54	1 707		
27	2 305	35	1 518		
28	1 471	42	2 817	173	1 959
29	1 051	17	1 613		
30	818	25	3 056		
	8 831				
31	608	8	1 316		
32	751	14	1 864		
33	1 019	19	1 861	113	1 977
34	1 365	33	2 417		
35	1 973	33	1 977		
	5 716				
36	1 952	34	1 712		
37	2 067	24	1 162		
38	1 801	10	2 221	101	1 816
39	1 540	28	1 818		
40	1 505	35	2 326		
	8 865				
41	1 214	25	2 059		
42	1 055	27	2 559		
43	1 057	27	2 554	111	2 209
44	911	20	2 195		
45	788	12	1 523		
	6 025				
46	621	18	2 898		
47	498	22	1 118		
48	500	16	3 200	71	3 125
49	382	9	2 356		
50	271	6	2 214		
	2,272				
51	226	8	3 539	20	2 301
52	642	12	1 869		
	868				
Total	66,565			1 311	1 971

TABLE VI.

Mortality of the whole Bombay Army, whether Serving in Service or otherwise, at every Age, and with Averages for every Fifth Year.

Ages	Population.	DEATHS			
		At each Age		In Portals	
		Total	Per Cent	Total	Per Cent
21	18,131	510	2.9785	1,333	2.631
22	8,761	196	2.2371		
23	9,050	202	2.2320		
24	8,109	217	2.6760		
25	5,549	178	2.7180		
	50,600				
26	4,943	121	2.4461	409	2.831
27	3,783	95	2.5112		
28	2,455	90	3.6660		
29	1,778	52	2.9216		
30	1,378	48	3.4833		
	14,340				
31	1,094	25	2.2852	212	2.673
32	1,258	29	2.3052		
33	1,613	42	2.5563		
34	2,102	57	2.7117		
35	2,958	69	3.0088		
	9,055				
36	2,892	80	2.7758	302	2.790
37	2,989	66	2.2081		
38	2,710	83	3.0627		
39	2,225	60	2.6966		
40	2,172	73	3.3610		
	12,988				
41	1,760	39	2.2159	205	2.561
42	1,431	40	2.7953		
43	1,129	51	3.5683		
44	1,234	38	3.0794		
45	1,069	37	3.4612		
	6,923				
46	844	21	2.8436	98	3.252
47	689	26	5.7736		
48	615	23	3.559		
49	481	12	2.4918		
50	354	13	3.6723		
	3,013				
51	264	10	3.7879	27	2.676
52	715	17	2.2813		
	1,009				
Total	97,927			2,673	2.721

The second section of this paper comprises returns made to an order of the House of Commons, of the sickness, mortality, and invaliding of the East India Company's armies in India, European and Native, from the year 1825 to the year 1844, inclusive, distinguishing the troops, European and Native, serving under the different Presidencies of Bengal, Madras, and Bombay, and in the mortality, distinguishing the deaths from that shocking and fearful disease, spasmodic or Asiatic cholera, from the mortality from other causes. The tables, like the preceding, have been elaborated by Mr. Neison, and are carried on consecutively from the previous numbers. Table No. VII. relates to the European troops of the Bengal Presidency, and gives the annual average strength, admissions into hospital during the year, deaths from ordinary causes, deaths from cholera, invaliding, rates per cent. of ordinary deaths to strength, rates per cent. of deaths from cholera to strength, rate per cent. of deaths generally to strength; and, finally, rate per cent. of numbers invalided to strength; and all this for every year from 1825 to 1844, inclusive. The table must be referred to for details; and I shall merely state the maximum, minimum, and mean of each heading. The maximum strength was in 1844, being 5,034, the minimum strength in 1827, being 3,793 men. The maximum admission into hospital was 11,232 in 1841, out of a strength of 4,751; so that each soldier, on an average, was more than twice in hospital during the year, and some three times. But I must disclaim any confidence in the admissions into hospitals as types of general sickness; for one soldier goes twelve times into hospital during the year, and in the total of admissions counts as twelve men, while another soldier remains in the hospital the whole twelve months, and counts only as one admission. No statistical law, therefore, can be legitimately deduced from the mere totals of admissions into hospital. The minimum admissions into hospital occurred in 1827, being only 927 out of a strength of 3,793, so that not every fourth man went into hospital, although the mortality that year was great, amounting to $8\frac{1}{2}$ per cent., and indeed more than one third of those who went into hospital died, and the invaliding in that year was $6\frac{1}{2}$ per cent. The sum of the admissions in 20 years was 158,160, on a strength of 88,380. The maximum of deaths from ordinary causes occurred in 1825, being 539 from a strength of 4,512, producing the maximum mortality, inclusive of cholera, of the 20 years, namely $12\frac{1}{2}$ per cent.; the invaliding of that year, however, being only 3.7 per cent. The minimum of deaths from ordinary causes was 4.50 per cent. in 1829 from a strength of 4,466. The maximum of deaths from cholera occurred in 1843, being 107 from a strength of 5,016, or 2.13 per cent. of strength. The absolute minimum number of deaths from cholera was in 1826, being 23, or 0.53 per cent., but the *minimum per centage* of deaths upon strength was in 1830, when, although 42 died from cholera, the per centage upon strength was only 0.24. Of the invaliding, I will speak not of the absolute numbers, but of the per centage only.

The maximum *per centage* of ordinary deaths occurred in 1825, when it amounted to 11.94 per cent., cholera adding only a half per cent. to it, the minimum was in 1829, amounting to 4.5 per cent. The maximum from cholera was in 1843, amounting to 2.13 per cent., and

the minimum in 1830, being 0.24 per cent. The maximum of deaths from all causes was 12½ per cent. in 1825, and the minimum 5.16 in 1829. The greatest invaliding was 6.7 per cent. in 1826, and the least 1.7 only in 1835. The mean of the ordinary deaths to the strength for 20 years, was 6.23 per cent., from cholera only 1.15 per cent. from all causes 7.38 per cent. and the mean annual invaliding 3.6 per cent., so that, including mortality and invaliding, a regiment would be renewed in less than ten years.

The Native troops of the Bengal army having served, for the most part, in the same territories with the Europeans noticed above, it will be right, for the sake of comparison, to take them in succession. The returns in Table No. VIII. embrace precisely the same headings as those of the European troops. The maximum strength of the army was in 1825, amounting to 152,843 men; the minimum strength was in 1832, when the army was reduced to 78,846 men. The maximum admissions into hospital occurred in 1842, being 98,936 men out of a strength of 113,020 men, and it is to be remarked, that the three greatest admissions are in the consecutive years 1842, 1843 and 1844, and were the details available at the present moment, I strongly believe this apparently very unusual sickly state of the Native army would be found to have originated chiefly in the Afghan operations and in the occupation of Scinde. The maximum of admissions, both of Europeans and Natives, are nearly coincident in time; but in no single year, in the worst seasons, has it occurred to the Native army to average an admission of each Native soldier into hospital during the year. The minimum of admissions was 30,903 in 1827, out of a strength of 130,313; so that less than every fourth man entered the hospital during the year. Here, then is an absolute coincidence in time with the European minimum admissions; and it would be well could we trace the peculiar atmospheric causes of this remarkable absence of disease, but of this I fear there is not any hope. The sum of the admissions for 20 years was 1,100,735 from a strength of 2,046,425, so that the average admission was for each soldier one admission in two years.

The maximum number of deaths from ordinary causes took place in 1825, being 2,651; but this number does not indicate the maximum percentage of mortality. The minimum, 950, was in 1837, but does not indicate the minimum percentage mortality. The maximum deaths from cholera was 361 in 1843, and the minimum 136 in 1840. The total deaths from cholera in 20 years was only 4,488. The greatest invaliding took place in 1829, being 5,070, and the smallest, 594, in 1835; the maximum percentage of ordinary deaths 2.38 in 1831, and the minimum 1.04 in 1843; and yet this, excepting 1833, was the maximum cholera year, 0.31. The minimum of cholera was in 1831, amounting to only 0.02 per cent. of strength. The average mortality from ordinary causes, for 20 years, was 1.57, and from cholera only 0.22, and from both causes 1.79 per cent. The invaliding was singularly small, the maximum being 4.7 per cent. in 1825, the minimum 0.6 in 1825, 6 and 1827, and the mean for 20 years 1.5 per cent. It will be remarked that the average percentage deaths of the Native troops from cholera did not amount to one-fifth of that of the Europeans, the latter being 1.15 per cent., the former 0.22.

The following are the castes in the Bengal Native Infantry, composed of 74 regiments.—

Christians	Mahomedans	Brahmins	Rajpoots	Hindoos of Inferior Descriptions
1076	12 411	24 819	27 993	13 920
Grand Total			80 219	

So that the Hindoos, almost universally non consumers of animal food, constitute above 83 per cent. of the whole infantry. The castes of the Bengal Native Cavalry are not specified in the returns.

The Madras army follows next in order, but scarcely any part of it served in the same localities with the Bengal troops. Table IX relates to the European portion of it. The maximum strength was 6,088 in 1822, and the minimum 4,350 in 1825. The maximum admission into hospital was 8,134 out of a strength of 4,481; so that each soldier, on the average, was received about twice into the hospital during the year. The minimum admission was 5,234, in 1832, from a strength of 5,019, the average being rather more than an admission for each soldier during the year. The maximum of deaths, 455, as with the Bengal Europeans, took place in 1825, and the minimum was 97, in 1838, in which year the deaths from all causes were only 2.12 per cent, the European troops for that year being nearly as healthy as if in their native land. The maximum of deaths by cholera was 60, in the year 1825, and the minimum only 1, in the years 1835 and 1836. The greatest invaliding was 159, in 1826, and the least 34, in 1828. The maximum per centage of deaths from ordinary causes was 10.46, in 1826, and the minimum 1.97, in the years 1838 and 1844. The maximum per centage from cholera was 1.38, in 1825, and the minimum 0.02, in the years 1835 and 1836. The maximum per centage of deaths, inclusive of cholera, was 11.84, in 1825, and the minimum 2.12, in the years 1835 and 1838. The maximum invaliding was 3.47 in 1826, probably consequent upon the sickness of the preceding year, and the minimum invaliding was only 0.65 in 1828. The sum of the admissions into hospital for 20 years was 135,720, from a strength of 101,210, showing a considerably greater degree of healthiness, as far as admissions are a test, than in the European troops of Bengal. The total number of ordinary deaths was 3,460, from cholera 432, invaliding 2,101. The mean annual per centage mortality of ordinary deaths for 20 years was 3.419, from cholera only 0.427, instead of 1.15, as in the Bengal Europeans, and the mean annual per centage of deaths from all causes was 3.85, instead of 7.38, in Bengal. The mean invaliding was 2.07 per cent. The mortality and invaliding combined are less than 6 per cent. per annum, so that a regiment would only be renewed in about 17 years, instead of 10, as in Bengal. The remarkable discrepancy between the healthiness of the European troops in the Madras territories and those of Bengal needs explanation. Whether it originates in physical or moral causes, whether in the atmosphere, or the habits and treatment of the men, should be questions for grave investigation.

Table X. relates to the Native army of Madras. The maximum strength was 71,488 in 1826, and the minimum strength 48,571 in 1837. The maximum admission into hospital was 73,273, from a

strength of 61,947, in that fatal year 1825; being, in fact, the only year in the whole 20 in which the admissions into hospital considerably exceeded the strength; so that many men were more than once patients. In the following year the admissions and strength were nearly the same. The minimum admissions, 29,646, occurred in 1831, from a strength of 50,417; so that little more than every other soldier entered the hospital, on an average. The greatest number of deaths from ordinary causes, 1,897, was in 1825, and the next year the intensity of the mortality was nearly as great, being 1,801, and exactly double the annual averages for 20 years. The minimum number of deaths was 540 in 1831, giving a mortality of 1.07 per cent, but this was not the smallest per centage mortality; for the preceding year 583 deaths gave only 1.02 per cent., a circumstance probably unexampled in the history of any but the Indian Native army, that barely more than one soldier should die out of 100, within the year, from 56,715 men! The year 1843, in the Bengal army, was similarly featured, when, out of 114,728 men, only 1,605 died, or 1.04 per cent, exclusive of cholera. But this healthiness is far surpassed in nine distinct years, in the Bombay Native army. The maximum rate of mortality in the Madras army from cholera was 1.38 per cent., in 1843, the minimum was in 1835, when only two men died out of the whole army, or 0.004 per cent. The maximum mortality, inclusive of cholera, was 4.34 in 1825, and the minimum 1.25 in 1830. The maximum invaliding was 3.36 in 1825, and the minimum 0.67 per cent in 1834. The sum of the strength for 20 years, 1,196,260, and the admissions into hospital 904,325, showing a much greater proportion than in the Bengal Native army. The total deaths were 18,088; the total deaths from cholera 6,976, the total invaliding 23,479. The mean annual average deaths for 20 years, from ordinary causes, was 1.51 per cent; from cholera, 0.58, being more than double that of the Bengal Native troops, greater than that of the Madras European troops, but still not approaching to that of the European troops in Bengal. The mortality from all causes was 2.09 being greater than in Bengal. The invaliding was 1.96 per cent per annum. In my final remarks I shall comment upon this mortality, as having reference to habits of life arising from caste, meanwhile I annex the castes of the Madras troops.

CAVALRY								INFANTRY							
1837-8		1838-9		1839-40.		1841-2		1837-8		1838-9		1839-40		1840-1	
Mosulmans.	Other Castes.	Mosulmans.	Other Castes.	Mosulmans.	Other Castes.	Mosulmans.	Other Castes.	Mosulmans.	Other Castes.	Mosulmans.	Other Castes.	Mosulmans.	Other Castes.	Mosulmans.	Other Castes.
3,280	476	3,212	473	3,192	492	3,123	499	15,657	22,714	16,431	24,771	7,787	21,249	8,772	21,151
7 to 1.		7 to 1.		7 to 1		6 to 1		1 to 14		1 to 14		1 to 14		1 to 14	

I cannot conclude my references to Madras without a commendatory notice of a Report of a Committee of the Statistical Society upon the sickness, mortality, and diseases of the European and Native troops of the Madras army, founded upon valuable data supplied by the present Sir James Annesley, and printed in the *Journal* for July, 1840; but as its chief object was, to illustrate the diseases prevalent in the Madras army, it does not come into the same exact category with the present paper.

Table XI. relates to the European troops of the Bombay army, being of the same form as the preceding, and for the same period of time. The maximum strength was 5,022 in 1843, and the minimum 1,727 in 1826. The maximum admissions into hospital, was 6,266, from a strength of 3,667, but in 1837, the admissions were three times the strength. The minimum admissions were 1,284, in 1841, from a strength of 3,479, so that little more than one-third of the men entered the sick lists. The greatest absolute number of deaths from ordinary causes was 270, in 1843, giving a per centage of 5.37; which, however, was little more than half the per centage in 1826, when only 179 died. The minimum of deaths was 46, in 1832, giving also the minimum per centage, 1.89, during 20 years. The largest number of deaths from cholera was 90, in 1842, giving also the greatest per centage of loss from that fearful disease, namely, 1.91 per cent. In the year 1835 there was not a single death from cholera; but this was the only exception in 20 years, although there were 11 years in which the annual loss from cholera, only varied from 2 to 8. The maximum per centage of ordinary deaths was 10.36 in 1826, and the least, 1.89 per cent, in 1832. The greatest and least loss from cholera have been already stated. The maximum loss, cholera inclusive, was 11.52 per cent in 1826, and the minimum 2.43 per cent, in the years 1830 and 1832, the greatest invaliding was 5.31, in 1831, and the least 0.09, in 1834. The sum of the strength for 20 years was 50,987, the sum of the admissions into hospital, 88,720. The total deaths from ordinary causes 2,301 and from cholera 288. The mean per centage deaths from ordinary causes, for 20 years, was 4.51, from cholera, 0.56, and from all causes, 5.07 per cent, the mean invaliding, 3.16 per cent. The mortality and invaliding combined are more than 8 per cent; so that a regiment would be renewed in about 12 years. Comparing the mortality of the European troops of the three Presidencies we find that Bengal loses the greatest number from ordinary causes, 6.23, and from cholera 1.15 per cent, total, 7.38 per cent; Madras loses the least from ordinary causes, 3.42 per cent, and from cholera 0.43,—total 3.85 per cent, about the half of that of Bengal. The loss at Bombay, 5.07 per cent, is somewhat more than at Madras. The mean loss of the European troops of all the Presidencies is 4.68 per cent. from ordinary causes, 0.72 per cent. from cholera, and from all causes 5.41 per cent; the mean invaliding 2.88 per cent.

Table XII. relates to the native army of Bombay. The maximum strength was 49,873, in 1844, the minimum, 25,782, in 1833. The maximum admissions into hospital was 49,418, in 1844, from a strength of 49,873, so that on the average nearly every soldier passed through the hospital, a most unusual circumstance for the Native army, and

this characterizes the returns for 1839, the year the Bombay troops occupied Scinde. The minimum of admissions was 20,652, in 1833, from a strength of 25,782. The greatest absolute number of deaths, exclusive of the mortality of the troops in Scinde, which is not given for the years 1842, 1843, and 1844, from ordinary causes was 295 in 1844 or 1.19 per cent; but this does not give the greatest percentage of deaths, which with 536 absolute deaths in 1833, gave a percentage of 1.87; the minimum of deaths was 111, in 1843, not including the deaths in Scinde. The greatest number of deaths from cholera was 237, in 1825, and the next year had the next greatest number, 183. Indeed, these two years appear to have been peculiarly fatal throughout India, for Europeans and Natives, both in ordinary diseases and cholera. The maximum invaliding was 2,507, in 1830, giving the maximum percentage, 8.08 for 20 years, the smallest number was 448, in the next year. The maximum percentage of deaths from ordinary causes was 1.87, in 1839, and least, 0.35 per cent. The maximum from cholera was, at the worst, little more than a half per cent, 0.58 in 1825, and the least was 0.007, in 1836, there being only two deaths in the whole army of 28,438 men. The maximum percentage of deaths, cholera inclusive, was 2.38, in 1839, but, with this exception, the two next greatest maxima were in the years 1827 and 1826. The minimum was 0.69 per cent., in 1843 for a part of the army. The sum of the strength was 638,978; the sum of admissions into hospital 586,047. The total number of deaths from ordinary causes, 6,455; from cholera, 1,796, the invaliding, 21,155. The mean percentage of deaths from ordinary causes, for 20 years, was 1.0 per cent, from cholera, 0.28; and deaths inclusive of cholera, 1.29 per cent; mean invaliding, 3.31 per cent.

Comparing the mortality of the Native troops of the different armies, we find that those of Bombay not serving in Scinde suffer least from ordinary causes, 1.01 per cent, while those of Bengal and Madras lose respectively 1.57 and 1.51 per cent. With respect to cholera, Bengal suffers least with the Native troops, 0.22, the greatest with the European, 1.15 per cent. Bombay loses only 0.28 per cent from cholera, while Madras loses more than double, 0.58. In the mortality from all causes, inclusive of cholera, Bombay suffers least, 1.29 per cent, Madras most, 2.00 per cent, and Bengal is intermediate, 1.79 per cent. The invaliding is greatest in Bombay, 3.31, and least in Bengal, 1.50 per cent. The mean mortality for 20 years, for all the Native troops of India, from ordinary causes, is 1.16 per cent.; from cholera, 0.31, and cholera inclusive, it is 1.80 per cent. The mean invaliding for all the Native troops of India is 1.93 per cent.

I have now terminated the review of the sickness, mortality, and invaliding of the East India Company's European and Native troops in India, for 20 years, and shall reserve some general observations upon the tables for the close of the third portion of this paper.

TABLE VII.—Bengal Presidency EUROPEANS

Year	Average Strength	Admissions into Hospital during the Year	Deaths from ordinary Causes	Deaths by Cholera	Invalidd	Ratio per cent of Ordinary Deaths to Strength	Ratio per cent of Deaths by Cholera to Strength	Ratio per cent of Deaths generally to Strength	Ratio per cent of Number Invalided to Strength
1825	4 512	9 378	550	25	167	11 94½	0 55½	12 50	3 7
1826	4 337	6 863	265	23	235	6 08	0 53	6 60	6 7
1827	3 793	927	291	34	248	7 66½	0 90	8 56½	6 5
1828	4 177	7 706	226	26	217	5 41	0 62	5 03	5 2
1829	4 106	9 029	201	25	205	4 50½	0 65½	5 16	4 C
1830	4 550	8 199	233	42	202	5 25	0 21	6 19	4 1
1831	4 757	7 061	271	38	154	5 75½	0 80	6 55½	3 2
1832	4 342	7 066	228	47	108	5 25	1 08	6 83	2 4
1833	4 220	6 979	272	51	85	6 11½	1 20½	7 65½	2 0
1834	3 806	8 738	285	63	76	7 48½	1 05½	9 14½	2 0
1835	4 081	7 589	270	48	70	6 61	1 17½	7 78½	1 7
1836	4 259	7 526	210	43	89	4 93	1 01	5 94	2 0
1837	4 321	6 171	216	39	129	4 99½	0 90	5 89½	3 0
1838	4 303	8 514	281	75	118	6 53	1 74½	8 27½	3 1
1839	4 098	6 149	251	65	113	6 19½	1 58½	7 78½	2 7
1840	4 754	6 776	286	51	236	6 01½	1 07½	7 08½	5 0
1841	4 751	11 202	287	81	220	6 01	1 28½	7 32½	4 6
1842	4 777	10 423	298	17	147	6 23½	0 98½	7 22	3 0
1843	5 016	9 839	298	107	166	5 94	2 13	8 07	3 3
1844	5 034	8 929	290	87	152	5 76	1 72½	7 18½	3 0
	88 880	158 160	5 510	1 321	3 227	6 23	1 15	7 38	3 6

TABLE VIII. NATIVES Bengal.

Year	Average Strength	Admissions into Hospital during the Year	Deaths from Ordinary Causes	Deaths by Cholera	Invalidd	Ratio per cent of Ordinary Deaths to Strength	Ratio per cent of Deaths by Cholera to Strength	Ratio per cent of Deaths generally to Strength	Ratio per cent of Number Invalided to Strength
1825	152 813	33 191	2 051	216	938	1 73	0 11	1 87	0 6
1826	148 339	50 753	1 745	189	954	1 18	0 12	1 30	0 6
1827	130 313	30 303	1 613	137	847	1 26	0 10	1 36	0 6
1828	119 797	51 425	1 712	199	2 259	1 45½	0 16½	1 62	1 8
1829	106 352	10 385	1 622	156	5 070	1 52	0 11	1 67	4 7
1830	93 520	47 118	1 668	236	3 415	1 78½	0 25½	2 03½	3 6
1831	83 748	39 155	1 535	181	1 113	1 83½	0 02½	2 05	1 6
1832	78 846	46 622	1 315	232	1 323	1 66½	0 29½	1 96	1 6
1833	79 703	38 183	1 639	259	1 049	2 05½	0 32½	2 38	1 3
1834	79 034	63 805	1 887	2 2	2 048	2 38½	0 30½	2 69½	2 5
1835	79 042	53 581	1 214	217	591	1 57	0 27½	1 84½	0 7
1836	79 932	31 116	1 130	223	922	1 78½	0 27½	2 06½	1 1
1837	80 834	39 626	950	189	945	1 17½	0 23½	1 40½	1 1
1838	82 813	46 351	1 682	187	1 178	2 03	0 22½	2 25½	1 4
1839	11 365	42 642	1 893	219	802	2 00½	0 26½	2 26½	0 8
1840	102 257	76 917	1 193	136	1 338	1 16½	0 12½	1 29½	1 3
1841	105 783	74 636	1 411	291	1 169	1 33½	0 27½	1 60½	1 1
1842	113 020	98 936	1 897	259	1 256	1 66½	0 22½	1 89½	1 1
1843	114 728	95 323	1 605	361	1 438	1 01	0 31½	1 71½	1 2
1844	121 091	91 751	1 418	329	1 455	1 17	0 27	1 44	1 2
	2 046 425	1 100 735	32 170	4 488	30 413	1 57	0 22	1 79	1 5

TABLE IX Madras Presidency. EUROPEANS.

Years	Average Strength	Admissions into Hospital during the Year	Deaths from Ordinary Causes	Deaths by Cholera	Invalidd	Ratio per cent of Ordinary Deaths to Strength	Ratio per cent of Deaths by Cholera to Strength	Ratio per cent of Deaths generally to Strength	Ratio per cent of Invalids to Strength
1825	4 350	7 812	455	60	108	10.59	1.379	11.839	2.162
1826	4 548	7 105	321	11	159	7.058	0.241	7.299	3.171
1827	4 982	8,035	257	6	97	5.158	0.120	5.279	1.97
1828	5 216	7 419	229	13	34	4.390	0.249	4.639	0.651
1829	5 007	7 181	152	3	111	3.035	0.059	3.095	2.276
1830	5 263	6 300	140	32	121	2.653	0.607	3.26	2.333
1831	5 324	5 786	198	41	120	3.718	0.769	4.488	2.233
1832	5 019	5 231	141	39	76	2.809	0.777	3.586	1.511
1833	4 739	7 288	167	48	81	3.523	1.012	4.536	1.701
1834	4 481	8 131	158	2	85	3.525	0.041	3.570	1.866
1835	4 719	6 991	100	1	81	2.105	0.021	2.126	1.708
1836	4,574	5 777	108	1	95	2.361	0.021	2.383	2.076
1837	1 615	5 363	148	19	122	3.186	0.109	3.595	2.626
1838	4 901	5 371	97	7	69	1.979	0.142	2.121	1.107
1839	4 696	5 332	102	27	126	2.172	0.574	2.747	2.683
1840	5,015	7 590	139	26	131	2.755	0.515	3.270	2.56
1841	5 785	8 002	115	5	132	2.506	0.086	2.592	2.281
1842	6 083	8 093	160	41	130	2.630	0.671	3.304	2.117
1843	5 917	6 806	127	11	121	2.116	0.219	2.336	2.011
1844	5 883	5 711	116	37	90	1.971	0.628	2.600	1.529
	101 210	135 720	3,160	432	2 101	3.419	0.127	3.846	2.076

TABLE X. NATIVE TROOPS Madras.

Years	Average Strength	Admissions into Hospital during the Year	Deaths from Ordinary Causes	Deaths by Cholera	Invalidd	Ratio per cent of Ordinary Deaths to Strength	Ratio per cent of Deaths by Cholera to Strength	Ratio per cent of Deaths generally to Strength	Ratio per cent of Invalids to Strength
1825	61 917	73 273	1 897	792	2 183	3.062	1.278	4.340	3.302
1826	71 188	71 637	1 801	291	2 267	2.540	0.411	2.950	2.887
1827	63 055	53 043	1 079	283	658	1.662	0.450	1.972	0.972
1828	61 396	40 848	761	368	1 100	1.181	0.571	1.753	2.327
1829	59 853	32 982	628	213	970	1.049	0.355	1.405	1.620
1830	56,715	30 715	583	126	1 212	1.027	0.222	1.250	2.137
1831	50,117	29,616	510	271	1 153	1.071	0.537	1.608	2.301
1832	58 150	33 451	636	333	668	1.088	0.569	1.657	1.142
1833	49,610	35 915	775	579	669	1.561	1.166	2.727	1.317
1834	49,568	47 504	968	58	331	1.952	0.117	2.069	0.673
1835	49,073	12 007	721	2	836	1.463	0.004	1.467	1.703
1836	48 726	52 302	1 206	27	342	2.475	0.055	2.530	0.711
1837	48 571	36 793	698	351	1 220	1.437	0.722	2.159	2.511
1838	48 930	37 490	710	502	1 127	1.451	1.025	2.477	2.916
1839	51 776	13 712	656	219	1 305	1.266	0.480	1.746	2.521
1840	60 703	15 451	687	122	1 684	1.131	0.200	1.332	2.773
1841	63,556	48,217	813	241	1,112	1.279	0.379	1.658	1.779
1842	63 571	53 172	1 116	711	1 811	1.802	1.165	2.968	2.738
1843	65 335	47 508	844	905	1 536	1.291	1.385	2.676	2.350
1844	61 182	18 599	939	519	761	1.456	0.801	2.261	1.181
	1 196 260	901 325	18 088	6 976	23 179	1.512	0.583	2.095	1.911

N.B.—This return includes the European officers of the Company's Army at Madras.

TABLE XI

Return to an Order of the House of Commons, dated 16th June, 1845, showing the Sickness, Mortality, and Invaliding, in the Hon East India Company's Troops, (Natives and Europeans,) in the Bombay Presidency, from the Year 1825 to 1844 inclusive.

EUROPEANS. Bombay.

Bombay 17th July, 1846

Years	Average Strength	Admissions into Hospitals during the Year	Deaths from Ordinary Causes	Deaths from Cholera	Invalids	Ratio per cent of Ordinary Deaths to Strength	Ratio per cent of Deaths from Cholera to Strength	Ratio per cent of Deaths generally to Strength	Ratio per cent of Number Invalided
1825	1 928	2 363	88	1	56	4 564	0.2	4 616	2 904
1826	1 727	4,764	173	20	55	10 361	1 158	11 522	3 181
1827	1 895	1 977	134	5	91	7 871	261	7 335	4 802
1828	2 227	6,178	117	13	113	6 600	581	7 181	5 072
1829	2,216	5 448	105	1	118	1 738	0 15	4 783	5 324
1830	2,576	4 201	62	2	85	2 107	0 77	2 181	3 293
1831	2 243	4 287	75	4	120	3 344	178	3 522	5 319
1832	2 421	5 451	46	13	35	1 897	5 16	2 133	1 413
1833	2 285	5 411	68	8	103	2 976	350	3 326	4 507
1834	2 151	4 719	71	2	2	3 440	0.3	3 533	0 097
1835	1 990	4 716	92	0	82	4 623	0	4 623	4 120
1836	2,007	4,891	59	1	19	3 093	053	3 146	0 996
1837	1 861	5 530	101	12	91	5 128	611	6 072	1 881
1838	2 266	4 125	87	7	40	3 839	309	4 118	1 735
1839	2 013	3 157	131	31	60	(55)	1 517	8 076	2 936
1840	2,371	3 606	128	24	62	5 392	1 010	6 102	2 910
1841	3,170	1 284	91	4	77	2 615	115	2 730	2 213
1842	4 706	2 039	165	90	121	3 506	1 912	5 418	2 571
1843	5,022	4 007	270	2	201	5 376	039	5 115	4 002
1844	3 667	6 266	196	48	80	5 311	1 309	6 653	2 181
Total	50 987	88 720	2 301	288	1 611	4 513	565	5 078	3 160
Bombay	50,987	88,720	2,301	288	1 611	4 513	565	5 078	3 160
Bengal	88,380	158,160	510	1,021	3 227	6 23	1 15	7 38	3 6
Madras	101,210	135 720	3,460	432	2 101	3 419	0 427	3 816	2 076
	240 577	382 600	11 271	1 741	6 939	4 685	721	5 409	2 884

TABUL XII.

NATIVES. *Bombay.*

Years	Average Strength	Admissions into Hospital during the Year	Deaths from Ordinary Causes	Deaths from Cholera	Invalids	Ratio per cent of Ordinary Deaths to Strength	Ratio per cent of Deaths from Cholera to Strength	Ratio per cent of Deaths generally to Strength	Ratio of Numbers Invalided
1825	40 711	39 041	485	237	556	1.191	582	1.773	1.365
1826	39 110	37 161	542	183	710	1.339	161	1.803	1.877
1827	39 090	30 673	476	33	862	1.218	081	1.302	2.205
1828	37 092	28 460	325	85	1 465	862	225	1.087	3.886
1829	33 250	32 617	316	21	1 852	950	062	1.013	5.561
1830	31 004	28 537	339	112	2 507	1.093	361	1.151	8.086
1831	31 178	27 300	197	16	118	632	117	779	1.136
1832	28 681	23 271	175	63	998	610	219	829	3.182
1833	25 782	20 652	112	116	711	551	413	1.000	2.713
1834	26 730	21 350	120	96	1 381	167	359	826	5.166
1835	28,091	25 721	250	28	862	1.032	037	1.129	3.001
1836	28 438	21 223	275	2	1,156	357	007	97	013
1837	28 212	21 838	226	113	730	800	400	1.200	2.791
1838	26 153	22 675	276	12	981	1.055	177	1.332	3.712
1839	28 677	30 101	536	148	687	1.869	516	2.185	2.317
1840	26 464	20 956	343	131	826	1.296	495	1.791	3.257
1841	30 659	31 035	373	21	782	1.216	078	1.23	2.511
*1842	26 417	30 165	302	158	1,221	1.113	608	1.711	4.133
*1843	31 835	28 550	111	109	1 435	319	312	631	1.507
*1844	40 873	49 118	595	79	892	1.193	153	1.351	1.788
Total	638 975	586 047	6,455	1 796	21,155	1.010	281	1.291	3.311
Bombay	638 975	586,017	6,455	1 796	21 155	1.010	281	1.291	3.311
Bengal	2,016 425	1,100,735	32,170	4,188	30 413	1.57	22	1.79	1.5
Madras	1 196 260	901 325	18 088	6,976	23 179	1.512	583	2.095	1.313
	881 660	2,591 107	56 713	13,260	75 077	1.461	112	1.803	1.934

* The returns of the sickness and mortality of the troops in Scinde incomplete for these years

Pension Establishments.

The third portion of this paper contains statements of the transfers to, and casualties on, the Invalid Pension Establishments, of the average length of service before transfer; average age at the time of decease, and number of years each grade remained on the Pension List, for the years 1843-4 and 1844-5, for Bengal, and for Madras for the years 1842-3 and 1843-4. The returns from Bombay have not yet been received. These returns confirm in a remarkable manner the general healthiness of Natives serving in the army in India, and as such are efficient auxiliaries to the deductions respecting the value of life furnished by the mortality returns of the effective troops.

The headings of the columns are —Number of Transfers,—Average Service before Transfer,—Number of Casualties, Rate per Cent of Casualties on the whole Establishment, Average Age at the time of Decease,—and, finally, Average number of Years in the Pension Establishment. And every rank on the Pension List, from the subedar, or Native captain, down to the groom and the grasscutter, come under these several headings. The tables are worthy of careful inspection; but I must confine myself to a few broad features in illustration of them. The total number of transfers, of all ranks, to the Pension establishments in 1843-4, in Bengal (Table XIII) was 1,340, and in 1844-5 the number was 1,583, in the former year, 78 subedars or Native captains, in the latter 128, the average period of service before pensioning of these officers being 43 years and 5 months and 41 years and 11 months respectively. The number that died in 1843-4, out of the whole number of subedars, was 79, and in 1844-5 it was 70, and the average age of those parties at the time of their death was 72½ years and 60½ years respectively, and they had averaged 13½ and 12½ years respectively on the Pension List before decease. Details are given for the several ranks, far in number, into which I will not enter; it will suffice to say, that the sepoy, or common soldier, in 1844-5 averaged about 20 years service before invaliding (the non commissioned ranks much longer), the average age at the time of decease being 52½ years, having been 11½ years on the Pension List. The average per centage casualties on the whole Pension establishment for 1843-4 was 4.20 per cent, and for 1844-5 it was 3.57 per cent. A continuation of the return gives the total numbers on the Pension establishment, the Family Pension establishment and the Wound Pension establishment, of every rank, remaining on the 30th April of each year, together with the casualties, &c., during the year. The total number on the Invalid Pension establishment, of all ranks, on the 30th April, 1844, was 24,648; on the Family Pension establishment, 5,526; and on the Wound Pension establishment, 250. On the 30th April, 1845, the numbers on these several establishments were respectively 25,289, 8,116, and 338.

The annual expense of the Native pensioners in Bengal was in

	Rupees		£
1840-41	18,35,548	0	183 55 1
1841-42	18 89,045	„	188,904
1842-43	17,92 462	„	179 2 16
1843-44	19 26 380	„	192,680
1844-45	20,04,120	,	200 4 12

The Madras return of the Pension establishment of the Madras army is of a similar character with the preceding, but it is for the years 1842 3 and 1843 4. The number of deaths of subedars in those years was 51 and 50 respectively, having served previously to invaliding $37\frac{1}{2}$ years, their average ages at the time of death being $62\frac{1}{4}$ and 68 for the several years, and having been on the Pension List $10\frac{1}{4}$ and $11\frac{1}{4}$ years before death. The average percentage of annual deaths of the whole Pension List for the years 1842 3 and 1843 4 was 5.87 and 5.71 respectively; showing, as in the mortality of the effective troops, a considerable increase over the mortality of the Native troops of the Bengal and Bombay armies. The average period of service of the sepoy before his transfer to the Pension establishment, would appear to be 23 years and $3\frac{1}{2}$ months for 1843 4, the average age of 774 deaths for this year was 56 years, but for the preceding year it is stated to be 73 years of 774 deaths—probably a graphical error.

The number of military pensioners, of all classes, in 1843 4 was 26,241, and the charge for them 18,75,457 rupees, or £187,545 sterling. In 1844-5 the number was 26,902, and the charge 18,96,066 rupees, or £189,806. On the 30th April, 1845, the number was 27,959, and the charge 20,15,449 rupees, or £201,549. The progress from the year 1834 5 has been from 23,900 pensioners at a charge of 17,93,158 rupees, or £179,315 to the number and charge above stated in 1845.

I here conclude my brief notices of the leading features of the tables constituting the three divisions of my subject; and I may be allowed to remark that the production of such elaborate documents as these I have handled indicates no ordinary efficiency in the departments in India whence they emanate.

I now venture upon some reflections, suggested by the tabular statements. I am so much of an utilitarian, that I unhesitatingly view labour, both mental and physical, that has not so no practical object—some definite view—some proximate or remote applicability to the use of the community or to individuals as labour lost, or, at the least, misapplied, and now, on the conclusion of my toil, I am induced to exclaim, as I have done on former occasions, “*Cui bono?*” Truly the question can be answered satisfactorily. Independently of the mass of important facts which the official returns embody, the Vital Statistics of the Bombay army at each year of life, from 20 to 52, will occasion a complete revolution in opinion with respect to the value of Native life in India, and give to the life insurance positive data for the calculation of tables of the value of life; which tables may justify the introduction of the important system of life insurance, at very low premiums, amongst the Natives of India, a system existing, I believe, almost unheeded and scarcely acted upon, or if acted upon, only to an exceedingly limited extent, from the ignorance of the value of Native life occasioning the exaction of high premiums. If, therefore, the publication and diffusion of these mortality returns should occasion an extension of the system of life insurance amongst the Natives, it would confer a blessing upon that portion of the community who have their salaries only as servants of the State, or of mercantile establishments, as a means of support and of providing for their families. With respect to the mortality of the Bombay army,

it is observed that the deaths amongst the troops serving in Scinde is double that of the troops not serving in Scinde. Nevertheless, in spite of this disadvantageous circumstance, the mortality is remarkably small for the tropics, is compared with that of similar ages in Europe.

According to Mr. Nelson's and other tables annexed (Tables XVIII to XXI.) it would appear that an examination of the gross mortality in England and Wales, between the ages of 21 and 52, as recorded in the first column of Table XVIII, shows that it is coincident with the specific mortality at age 39; and assuming that such will be the case in the other tables referred to in this paper, we are led to the following conclusion. that during the three years 1842, 1843, and 1844, the mortality of the whole Bombay Native army, including that in Scinde, was 2.729 per cent, being somewhat greater than that for the city of Glasgow at age 39, which is 2.413 per cent. Again, the mortality of that portion of the Bombay army, which had been in Scinde, being 4.333 per cent, is more than double the mortality of the Northampton Table, but not quite double that of the city of Glasgow at the same ages. But if the mortality of that portion of the army which had not been in Scinde during those three years be taken, it will be found to be only 1.974 per cent., being nearly coincident with the mortality for France, and below that of the Northampton Table or the city of Glasgow. In connexion with this conclusion, however, it is necessary to take into view another fact. In the two years 1842-3 the following six regiments were in Scinde, but were not there during the year 1844*. During the latter year the mean strength of these regiments was 5,557, and the deaths 238, or 4.283 per cent, differing very little from the average mortality of the regiments in Scinde. It is thus seen that the mortality of the Native army said to be out of Scinde is increased from including regiments just returned from that province, and hence it follows, that in order to arrive at the true mortality of the Native army of Bombay, exclusive of those in Scinde, some correction will be necessary. During the year 1844 the average strength of the regiments actually out of Scinde was 25,265, and the deaths 566, or about 2.248 per cent. If from this be deducted the six regiments returned from Scinde in the year preceding, the mean strength of the residue will be 19,708, the deaths 328 giving a reduced mortality of 1.664 per cent. So that the influence of those regiments just returned from Scinde was to increase the rate of mortality during the year 1844, .584 per cent. I am not possessed of the information at this moment to show what regiments in the year 1842 had returned from Scinde during the preceding year, but if it be allowed that other years will be similarly affected as the above, in order to determine the true mortality of those regiments which have never entered Scinde, it will be necessary to deduct from the results of Table V .584 per cent. If this be done, the mortality of the Bombay Native army will be only 1.390 per cent, approaching nearly to the mortality for Iceland and Sweden, not widely different from the mortality for the male population of England and Wales, and under the mortality of Dundee, France, the Northampton Table, and the city of Glasgow. This most important and interesting result

* 3rd Regt Light Cavalry 1st or Grenadier Regt. 4th, 15th 20th, and 21st, Regts, N. I.

deduced from the mortality at specific ages during the years 1842, 1843, and 1844, is confirmed by the gross mortality over a period of twenty years, as already alluded to, and from which it appears that the mortality in that period was not more than 1.291 per cent.

Consequent upon the preceding deductions the Tables XIX, XX, and XXI, will give a comparative view of the value of life, in the various sections of the Bombay Native army for the three years 1842, 1843, and 1844, and the whole male population of England and Wales and the city of Glasgow. The first portion of the table represents the equation of life at various ages, or the term of years for which there is an equal probability of surviving. It will be found (Table XIX) that at age 21 the expression is 24.534 years for the whole army; for that portion in Scinde only 16.477 years; but for the rest is on that section which had not been in Scinde during those three years, it is 30.697 years; while for the city of Glasgow it is 29.423, being upwards of one year and a quarter in favour of the Native army. The same expression for the male population of England and Wales is 43.410 years.

Again, the Table XX shows the equation of life, for which the probability of surviving is two to one, and at age 30 it will be seen to be 14.307 for the whole army, only 9.484 for Scinde, and for the residue as much as 18.217 years. The same term for Glasgow is 16.960 years, and for England and Wales 27.699.

Table XXI. affords a further illustration of the same sort, and represents the term of years for which the probability of surviving is three to one. At age 40 it will be seen to be 9.058 for the whole army, only 5.728 for Scinde, but 10.653 for the part of the army out of Scinde. For Glasgow the expression is 9.591, and the whole male population of England and Wales 17.375 years.

It thus appears that over those ages the value of life of the army in Scinde is only about one half of that out of it, and also that the value of life in Glasgow is also less than in the portion of the army out of Scinde.

This method of representing the relative value of life confirms the results arrived at by the other tests already given.

Another important result from the compilation of this paper is the necessary removal of all rational grounds for that panic terror which has hitherto obtained respecting the intensity and extent of that assuredly very shocking malady Asiatic cholera. In consequence of the unexpectedness with which the disease appears in certain localities, the devastation it commits, sparing neither age nor sex, the robust nor the feeble, the daring nor the timid, the unthinking and the alarmist are led to characterize these local manifestations as types of the general operation of this appalling disease, but when we calmly cast our eyes over the mortality tables of the whole Indian army, whose annual average strength for twenty years was 12,028 Europeans and 194,082 Natives, we find that the annual average loss from cholera for twenty years was

Europeans		Natives	
Bengal	51	Bengal	224
Madras	22	Madras	348
Bombay	11	Bombay	90
Total for India	87	Total for India	662

The European troops losing, in fact, only 0·724 per cent per annum, and the Native troops only 0·342 per cent per annum. The maximum intensity of the cholera was only 2·13 per cent. in 1843 in twenty years, and amongst the Native soldiery during that period the maximum intensity scarcely exceeded the half of that amount. And yet the recent shocking details from one locality in Scinde (Kurrachee) struck the public mind in India and Europe with amazement and horror; and such impressions would be justifiable were unhappily these visitations to be of frequent or extended occurrence; but the preceding tables prove the contrary, and relieve us from our terrors.

Another fallacy which these tables dissipate is the asserted superiority of the European over the Native soldier in resisting the influence of cholera in the first instance, and in the power of rallying from its effects when attacked. The European it is said is a robust man than a Native; his fibre is more rigid, and his stamina stronger; the Native being comparatively feeble and washy from his habits of life, and from the insufficient nourishment of his farinaceous or vegetable food. Now the tables show the very reverse to be the case. In no year whatever under the Bengal Presidency has the per centage rate of mortality from cholera of the Native troops approached that of the European; nearly the same may be said of the Bombay cholera mortality. At Madras there is a difference, the mean mortality of the Natives from cholera being rather more than a half per cent. per annum, and that of the Europeans a trifle less than a half per cent. This I shall endeavour to account for when speaking of the probable causes operating upon the health of the troops of the three Presidencies, European and Native. The final results of cholera mortality is already shown are, for the European troops of all India, 0·724 per cent, and for the Natives, 0·342 per cent per annum. No doubt the reckless life of the common European in India, and the over stimulus of his animal food and alcoholic beverage, predispose him much more than the Native soldier to all diseases. He is also a much greater sufferer from disease than the European officer; and of this we have sufficient evidence in the Report of Mr. Glynn Davis upon the Bengal Military Fund, in which he shows that the per centage mortality of all ranks of European officers of the Bengal army for eight years, from 1824 to 1832, was 3·77 per cent for the unmarried (only the half of the European soldier in Bengal); while that of married officers for the same period was only 2·74 per cent, and that for the European soldier in Bengal, as has been shown, was 7·38 per cent. This different mortality may very fairly be attributed to the more temperate mode of living of the European officers than that of the men, but from whatever cause, it is plainly demonstrated that European soldiers are greater sufferers from cholera than Native soldiers; and this leads me to another great fact illustrated by these tables, namely, the remarkable general health of the Native troops, manifesting, however, distinctive features in the different Native armies of the three Presidencies, to which I shall advert. The per centage mortality of the three Native armies for twenty years is shewn to be: Bombay, 1·291 per cent, Bengal, 1·79 per cent.; and Madras, 2·095 per cent. Now, even the highest of those rates is less than that of the English foot guards 2·16 per cent. (Table XXII), less than that of the troops at Gibraltar 2·20 per

cent. less than that of the troops in the Ionian Islands 2.83 per cent, and less than that of the troops in Canada 2.00 per cent, but the average mortality of the Bombay army is less than that of any European troops whatever, excepting only the Prussian, which is stated to be only 1.17 per cent; this low average, however, is understood to be owing to the extreme youth of the men, who have enlisted young, and have only to serve five years. The lowest rates in the British army is: household cavalry, 1.45 per cent, dragoon guards and dragoons, 1.53 per cent; and the troops in Ireland and the Cape of Good Hope, both 1.55 per cent. Now to what cause or causes is to be attributed the remarkable discrepancy between the health of the Native and European armies in India? All live under the same climate, are exposed to the same vicissitude of seasons, the same alternations of temperature, and are engaged in the same toils the European is if anything better lodged in his lofty barracks than the Native in his lowly hut; and is certainly better fed, in the usual acceptation of good feeding, his animal food being daily washed down with grog or beer, while most of the Natives subsist on farinaceous or vegetable matters, washed down with water only. But independently of these contrasts between the health of Europeans and Natives, how are we to account for the singular discrepancy between the health of the European troops serving under the Bengal Presidency and those serving under the Madras Presidency, the mortality of the former being 7.38 per cent, and that of the latter only 3.846 per cent, so that a European regiment in Bengal is renewed in ten years, in Bombay in twelve years, and in Madras in seventeen only? And in contrast to this we find the mortality of the Native army of Madras 2.095 per cent., that of Bengal 1.79, and that of Bombay only 1.29 per cent. Undoubtedly over the vast continent of India there must be and are numerous local physical circumstances, marshes, jungles, insufficient drainage, sandy arid plains, or rank vegetation, to mention the atmosphere of these particular localities, and to operate upon the health of the residents in such places. But this will not meet all the bearings of the broad question. Why is the health of the European troops so universally inferior to that of the Native troops serving with them, whose health, in fact, is superior, or at least equal to that of the European troops in their own land? I will not say that the question is absolutely solved by the reply, "Habits of life," but I will say, reasoning from analogy, that the reply goes a great way to solve it. The European soldier in India is overstimulated by food, overstimulated by drink, and understimulated in mind and body. The European soldier eats a quantity of animal food every day of his life, he drinks a quantity of alcohol every day of his life to the amount frequently of a bottle of spirits in five days, and he has not any mental, and little bodily exercise. Happily the pernicious practice has been discontinued, but time was when the European soldier was compelled to take his dinner by eight o'clock in the morning, with the thermometer varying from 70° to 90° or more, at different seasons of the year, leaving him in a state of nervous irritation and thirst, which could only be relieved as he thought by further potations, indeed I have been assured within the last few days by a pensioned artillery staff sergeant, who never drank in India, and was only in hospital five days during twenty one years' service

that he has known, out of a detachment of 100 artillery men, no less than eight men in strait jackets at one time, absolutely mad from drink. Now animal food with the assistance of such an auxiliary, and combined with mental vacuity, go far to account for the excess of mortality amongst Europeans.

With a view to see the bearing of the quality of the supplies of beverage to the European troops I had the following statement of the quantity of beer sent to Madras and Bombay for the use of the European troops prepared

(N.B. None sent to Bengal)

	Madras	Bombay
1810	Hhds. 500	none
1812	1 500	none.
1814	2 000	none.
1815	2 000	1 000
1816	1 888	1 300
Under 1817	980	232

And the spirits supplied at each Presidency are

In Bengal	Rum
At Madras	Colombo Arack
At Bombay	Bhandoop Spirit

The first features that catch the eye are, that the Bengal Europeans have not any porter sent to them, and that they drink rum, a spirit not so wholesome as arack. Their mortality is 7.38. The Madras Europeans consume large quantities of porter, and drink arack, a comparatively wholesome spirit. Their mortality is only 3.846 per cent. The Bombay European troops have only recently commenced the consumption of porter, and the spirit they drink is understood to be more wholesome than rum, but less so than arack. Their mortality is 5.078 per cent. These results are certainly not conclusive; but I cannot help associating the increased consumption of malt liquor by the Madras Europeans with their comparative healthiness; and the gradations of the mortality in the Bengal and Bombay European troops as partly influenced by the quality (no doubt much more by the quantity) of the spirits they respectively consume.

In contrast to this, let us examine the habits of life of the Native soldier, and we shall find his health in the ratio of his departure from the European system of living. I have been careful to give numerically the castes of the Native troops of the armies of Madras, Bombay, and Bengal, with the exception of the Bengal cavalry, as their habits of life are chiefly regulated by their caste. The Natives of India are generally considered to be very temperate in their habits, but it is quite a mistake to suppose that they all live upon farinaceous or vegetable matters, and do not drink fermented liquors; it is equally a mistake to suppose that the general food of the people is rice, which is only very much the case in low lands subject to inundation, and along the coasts. In the interior, rice is generally so much dearer than the bread grains, of which there are many (wheats, millets, the genera holcus, panicum, paspalum, &c., &c.) that rice is rarely consumed, at least in Hindoos

tan and the Deccan. The Hindoostanee soldier lives almost exclusively upon unleavened cakes of wheaten flour, daily baked upon an iron dish, and washed down with water. On the other hand, all Mahomedans, and all low caste Hindoos, are consumers of animal food, spirituous liquors, opium, ganja (hemp water); and many castes of the Shudras, the Mahrattas, for instance, eat mutton and fish, when they are able to do so, but meat is not essentially necessary to health and strength. Leibeg says, that only those substances can possibly be called nutritious which are capable of conversion into blood; that meat is readily converted into blood, and that farinaceous food has also this nutritious principle in a high degree. The truth of this profound assertion of Leibeg, is established by the food of the great majority of the Native soldiers of the Bombay and Bengal armies. I have shown that 9ths of the Bombay army consist of Hindoos, and considerably more than half of the whole army are Hindoostanees. These men never taste meat, fish or spirituous liquors but live, I may, from personal observation, venture to say, almost exclusively upon unleavened cakes of wheat or other cereals, baked upon an iron dish, and eaten as soon as cooked. The mortality of this army for twenty years is 1.29 per cent per annum. The great majority of the Bengal army (83 per cent.) consists of a similar class of men, and the mortality is only 1.79 per cent. The Madras army in its constituents is the reverse of the other two armies. In the cavalry there are from 6 to 7 Moosulmans to 1 Hindoo, and in the infantry there is 1 Moosulman to every 1½ to 1¾ Hindoos; but amongst the latter there is a considerable number of low castes, without prejudices about food, and untrammelled by the prejudices of caste; therefore the majority of the Native troops of the Madras army can eat and drink like Europeans, and the mortality returns show us that they suffer from cholera as much as Europeans suffer, and that the mean mortality from all causes is 2.095 per cent., or more than 2 per cent. beyond that of the Bombay army for 20 years. I never followed a farinaceous or vegetable regimen myself in India, nor do I recommend it to others, but I ate moderately and drank little, and I have a strong conviction that much of European disease in India is traceable to overstimulus, and that the mortality among the European troops will not be lessened until the European soldier is improved in his habits, until he is made to understand that temperance is for the benefit of his body, libraries for the benefit of his mind, exercise for the benefit of his health, and savings' banks for the benefit of his purse. The climate of India is less to blame than individuals; for in case foreigners find the people of a country healthy, they should, to a certain extent, conform to the habits of the natives to be healthy also.

TABLE XIII BENGAL PENSION LIST

Statement of Transfers and Casualties on the Invalided Pension Establishment of the Average Length of Service before Transfer, Average Age at time of Death, and Number of Years each Grade remained in the Pension Establishment during the Years 1843-44 and 1844-45.

	Number of Transfers		Average Service before Transfer				Number of Casualties		Rate per cent of Casualties on the whole Establishment		Average Age at time of Death		Average Number of Years on the Pension Establishment	
	1843-44	1844-45	1843-44		1844-45		1843-44	1844-45	1843-44	1844-45	1843-44	1844-45	1843-44	1844-45
Subadars, Ressaldars, &c	78	126	Yrs 43	Mths 3	Yrs 41	Mths 11	Dys 3	70	4 29	3 57	72½	69½	13½	12½
Jemadars, Ressaldars	28	19	35	11	34	1	20	20			63½	57½	10½	12½
Havildars, Duffadars	239	354	27	6	29	0	0	233	4 29	3 57	61½	60½	13½	13½
Naicks	178	199	28	1	25	8	18	98			63½	53½	16½	12½
Native Doctors, Farmer Majors, &c.	7	8	29	3	24	3	3	4	4 29	3 57	70½	66½	13½	10½
Drum Majors, Drummers, Trumpeters	31	30	32	8	1	33	5	14			65½	62½	13½	7½
Sepoys, Troopers, Sowars &c.	617	693	16	10	4	19	0	379	4 29	3 57	53½	52½	11½	11½
Lascars, Gun and Quarter Master Findals	15	35	22	0	23	3	8	14			66½	63½	14½	14½
Ordnance Drivers, Farmers, Bhuesties	43	40	25	9	1	21	5	23	4 29	3 57	56	61	11½	10½
Syces, Grasscutters, Work men	104	149	18	4	23	7	4	82			64½	61½	9½	12½
Total	1,340	1,583						937						

Military Auditor General's Office,
28th November, 1846.

(Signed)

E. G. J. CHAMPNEYS, Capt.,
Deputy Military Auditor General.

TABLE XIV.—Statement of Military Pensioners of the Bengal Establishment, with Transfers and Casualties during the Years 1844-45.

Remaining 30th April, 1844.	Squadrs	Residuals	Invalids	Native	Native Dr	Infantry	Artillery &c	Infantry	Artillery &c	Qualifications	Ordnance	By other	Total	REMARKS.
Invalid Pension Establishment, from May, 1844, to 30th April, 1845	874	563	4,100	3,351	78	336	11,068	6,14	430	2,014	24,612	2,014	24,612	The Transfers to the Invalid Pension Establishment during 1844-45 are more by 243 than in the year 1843-44. The Casualties are less by 68 than those reported in the last year. The total increase on the whole Establishment is 646. The rate per cent of Casualties is 3.7, of which last year was 4.39. The percentage of Transfers is 6.03 that of last year was 5.43.
Transfers to Invalid Pension Establishment from May, 1844, to 30th April, 1845	126	19	354	129	8	30	693	30	40	149	1,588	149	1,588	
Transfers to Family Pension ditto, from ditto to ditto	36	34	171	151	17	2,111	2,111	2,111	1	121	2,596	121	2,596	
Transfers to Wound Pension ditto from ditto to ditto	2	..	5	2	..	..	71	..	1	4	88	4	88	
Casualties in Invalid Pension Establishment, from May, 1844, to April, 1845	70	20	233	96	4	14	3,19	14	43	82	931	82	931	The Transfers to the Family Pension Establishment are less by 298 than those shown in the last statement. The Casualties in the year 1844-45 exceed those of 1843-44 by 30. The rate per cent of Casualties is 1.38, that of 1843-44 being 1.03. The rate per cent of Transfers is 32.79. The rate per cent of Transfers is 32.79. The rate per cent of Transfers is 32.79.
Casualties in Invalid Pension ditto, from ditto to ditto	..	1	6	6	..	2	80	..	1	2	106	2	106	The Transfers to the Family Pension Establishment are less by 298 than those shown in the last statement. The Casualties in the year 1844-45 exceed those of 1843-44 by 30. The rate per cent of Casualties is 1.38, that of 1843-44 being 1.03. The rate per cent of Transfers is 32.79. The rate per cent of Transfers is 32.79.
Wound Pension Establishment, from ditto to ditto	..	..	..	..	..	..	..	..	..	..	..	..	..	The Transfers to the Family Pension Establishment are less by 298 than those shown in the last statement. The Casualties in the year 1844-45 exceed those of 1843-44 by 30. The rate per cent of Casualties is 1.38, that of 1843-44 being 1.03. The rate per cent of Transfers is 32.79. The rate per cent of Transfers is 32.79.
Remaining 30th April, 1845	930	562	4,871	3,382	82	342	11,882	6,14	432	2,081	25,289	2,081	25,289	The number borne on the Wound Pension Establishment is increased from 200 to 335. The number borne on the Family Pension Establishment is increased from 1,500 to 1,500. The number borne on the Invalid Pension Establishment is increased from 1,500 to 1,500.
Invalid Pension Establishment, from May, 1844, to April, 1845	113	108	2,16	483	10	3	6,118	149	16	350	8,113	350	8,113	The number borne on the Wound Pension Establishment is increased from 200 to 335. The number borne on the Family Pension Establishment is increased from 1,500 to 1,500. The number borne on the Invalid Pension Establishment is increased from 1,500 to 1,500.
Family Pension Establishment, from ditto to ditto	2	..	16	17	..	..	260	10	16	14	338	14	338	The number borne on the Wound Pension Establishment is increased from 200 to 335. The number borne on the Family Pension Establishment is increased from 1,500 to 1,500. The number borne on the Invalid Pension Establishment is increased from 1,500 to 1,500.

Military Auditor-General's Office,
28th November, 1845

(True Copies)

(Signed)

W V N STURT, Major,

(Signed)

E. G. J. CHAMPNEYS, Captain &

Deputy Military Auditor General

Official Secretary to the Government of India,
in the Military Department

TABLE XV.

Statement of Transfer and Casualties in the Pension Establishment, of the Average Length of Service, before Transfer, Average Age at Time of Decease, and Number of Years each Grade remained in the Establishment during the Years 1842, 1843, and 1844.

	Number of Transfers.		Average Service before Transfer		Number of Casualties		Rate per Cent of Casualties on the whole Establishment		Average Age at time of Decease		Average Number of Years on the Pension Establishment.		REMARKS
	1842-43	1843-44	1843-44		1842-43	1843-44	1842-43	1843-44	1842-43	1843-44	1842-43	1843-44	
			Yrs	Mths	Dys								
Subadars	58	71	37	6	3	51	50		62½	68	10½	11½	The transfer during the years 1843-44 show an increase of 70 than those of the year 1842-43. The casualties in the year 1843-44 are less by 21 than those of the year 1842-43. The total increase of pensioners on the Establishment in the years 1843-44 is 259. The rate per cent of transfer on the Establishment in the year 1842-43 is 7.15 and that in the year 1843-44 is 7.44. The rate per cent. of casualties on the Establishment in 1842-43 is 5.87, and in 1843-44 is 5.71.
Jemadars	20	8	32	8	18½	24	13		55	64½	8	11½	
Harildars	175	155	28	1	21	153	178		47	62	8	13	
Naichs	83	99	23	9	2	70	71		50	58½	8	13	
Drummers	39	18	26	4	20	43	32		62	57½	12	12½	
Puckallies.	11	11	26	6	0	15	12		57½	65	11½	15	
Privates	933	1,015	23	3	15	774	778	5.87*	73½	56	12	12½	
Syrrangs, Tindals, Lascars, Dooly	83	91	25	10	20	91	78		69½	62½	14½	9½	
Bearer, Artificers, Drivers, &c													
Apothecaries and Dressers	5	9	22	7	20	18	6		74½	60½	14½	13½	
Total	1,405	1,477				1,239	1,218						

* The columns "Rate per Cent of Casualties" of this Statement, is filled up with reference to the number of Pensioners in 2nd, 3rd, and 4th Class, as per Annual Return, No 3, furnished to Government, under date the 10th August, 1844—amounting in the years 1842-43 to 19,837, and in 1843-44 to 20,096.

Fort Saint George Pension Office,
29th October, 1844.

(Signed)

ROBERT THORPE, Major,
Superintendent of Pensions

East India Company's Armies in India.

TABLE XVI.

Table of the Actual Numbers Living at Each Age in the Bombay Army on the 1st day of January in the following Years.

	Age next Birthday.	1842		1843		1844		Total	Age next Birthday	1845	
		Living	Deaths.	Living	Deaths.	Living	Deaths			Living	Deaths
Population, Jan. 1 st , 1842	21	5,466	199	6,417	192	5,863	49	1,146	21	6,246	540
" " " " 1843	22	3,044	84	2,832	64	2,836	47	8,412	22	5,083	146
" " " " 1844	23	2,862	82	3,069	70	2,903	50	8,413	23	3,633	902
" " " " 1845	24	2,272	74	2,641	77	2,949	7	7,843	24	2,163	717
	25	1,565	45	2,070	41	2,417	47	6,341	25	2,234	1,8
	26	1,346	39	1,595	32	1,345	24	4,444	26	1,672	1,1
	27	965	29	1,128	28	1,540	32	3,633	27	1,773	1,1
	28	580	19	718	23	713	16	7,346	28	891	90
	29	508	11	532	24	688	17	1,178	29	607	7
	30	417	9	418	12	443	17	1,449	30	413	48
	31	404	13	354	8	405	8	1,011	31	389	25
	32	603	21	418	12	405	4	326	32	464	29
	33	849	21	541	11	477	10	1,732	33	66	47
	34	1,004	32	739	17	476	8	1,257	34	118	5
	35	1,144	46	1,064	18	497	25	3,041	35	1,055	89
	36	1,062	34	967	26	88	70	2,913	36	1,024	80
	37	998	26	1,030	26	11	12	2,149	37	1,034	76
	38	722	30	859	4	923	44	2,410	38	932	84
	39	782	29	754	11	629	21	921	39	782	70
	40	650	30	717	11	704	18	212	40	743	73
	41	564	11	623	17	649	11	1,436	41	611	49
	42	581	14	469	17	418	14	1,464	42	514	40
	43	516	14	522	10	377	13	1,436	43	504	51
	44	364	20	419	10	420	11	1,404	44	423	43
	45	341	15	341	7	369	10	1,057	45	371	37
	46	280	11	287	7	271	6	886	46	294	24
	47	236	12	232	7	218	7	687	47	243	16
	48	179	5	212	7	213	11	624	48	199	24
	49	165	4	164	6	150	9	49	49	168	17
	50	142	4	143	4	96	1	367	50	177	3
	51	93	2	139	9	12	2	964	51	171	10
	52	230	6	456	8	233	3	1,543	52	171	17
		31,472	1,070	32,474	811	32,464	722	96,663		33,970	1,573

Vital Statistics of the

TABLE XVII

Decremments of Indian Army.

Ages	Total		In Service.		Never in Service.	
	Living	Deaths	Living	Deaths	Living	Deaths
21	100 000	2 978	100,000	5 562	100,000	2 062
22	97 022	2 170	91 438	3 001	97 938	1 793
23	9,1852	2,136	91,437	3,751	96,145	1,788
24	92 416	2 275	87,686	3 280	91 357	1 688
25	90 141	2,269	84 406	3 306	92 669	1 600
26	87,552	2,163	81,100	3,436	91 769	1 785
27	85 409	2 437	77 661	3 390	86 281	1 710
28	82 957	2 491	77 271	3 229	87,574	1 876
29	80,178	2,393	71,045	3,051	85,698	1,700
30	78 085	2 290	67 994	2 771	83 920	1 790
31	75,795	2 054	65 223	2 489	82 139	1 596
32	73 741	1 967	62,731	2,196	80 513	1 691
33	71 774	1,847	60 538	2,237	78 810	1 489
34	69 927	1 868	58,301	2,317	77,360	1 526
35	68,059	1 805	55,981	2 103	75 831	1 389
36	66 251	1 824	53,581	2 112	71 445	1 117
37	64,130	1,772	51,169	2 418	73 028	1 305
38	62 658	1 767	48,721	2 306	71 723	1 329
39	60 891	1 619	46,325	2,058	70 394	1 319
40	59 212	1,674	44,267	1,870	69,015	1,517
41	57 568	1 685	42 397	1 935	67,528	1,528
42	55 883	1 679	40 162	1 921	66 000	1 543
43	51 204	1 639	38 511	2 077	61 457	1,401
44	52 567	1 655	36 461	1 974	63 053	1,179
45	50 910	1 703	34 490	1,773	61 574	1 673
46	49,207	1,616	32,717	1,576	59,901	1 709
47	47 561	1 535	31 141	1 341	58 192	1,791
48	46 026	1 505	29 800	1,256	56 401	1 814
49	41 521	1,540	28 514	1 350	51 587	1 826
50	42 981	1 358	27 194	1 436	52 761	1,196
51	41 523	1 577	25 758	1,356	51,265	1,814
52	40,016	914	21,402	1 184	49 451	924

TABLE XVIII.

Per Centages of Mortality at every Age.

Ages	Males	Both Sexes	Males	Males	Males	Both Sexes	Both Sexes	Males
	England and Wales (Nelson)	Carlisle (Milne)	Ireland (Nelson)	Sweden (Nilsen)	Dindee (Nelson)	Frasno (Duvillard)	Norhampton (Pice)	Glasgow (Nelson)
21	694	815	744	856	822	1 219	1 482	1 228
22	636	845	783	898	863	1 262	1 50	1 277
23	704	876	822	942	904	1 303	1 527	1 326
24	709	908	864	969	915	1 312	1 551	1 374
25	731	936	897	997	985	1 379	1 576	1 426
26	737	960	929	1 025	1 025	1 416	1 601	1 482
27	777	981	959	1 035	1 066	1 461	1 627	1 511
28	870	998	985	1 081	1 105	1 481	1 651	1 601
29	983	1 011	1 007	1 114	1 115	1 517	1 680	1 669
30	1 010	1 023	1 040	1 146	1 185	1 519	1 710	1 745
31	1 020	1 036	1 052	1 140	1 225	1 580	1 740	1 801
32	1 013	1 019	1 075	1 173	1 261	1 611	1 771	1 867
33	1 005	1 063	1 098	1 187	1 304	1 642	1 803	1 933
34	1 115	1 078	1 121	1 201	1 311	1 673	1 836	1 905
35	1 026	1 095	1 119	1 195	1 394	1 705	1 870	2 069
36	1 055	1 113	1 181	1 230	1 455	1 738	1 906	2 146
37	1 086	1 131	1 219	1 246	1 526	1 773	1 913	2 229
38	1 117	1 157	1 261	1 261	1 608	1 810	1 982	2 318
39	1 188	1 184	1 308	1 320	1 700	1 819	2 022	2 413
40	1 300	1 212	1 356	1 510	1 733	1 891	2 091	2 508
41	1 377	1 245	1 403	1 555	1 885	1 937	2 155	2 602
42	1 437	1 279	1 450	1 602	1 977	1 986	2 240	2 697
43	1 458	1 319	1 498	1 606	2 070	2 010	2 291	2 792
44	1 480	1 361	1 545	1 678	2 162	2 099	2 315	2 837
45	1 481	1 407	1 609	1 777	2 251	2 161	2 401	3 010
46	1 482	1 451	1 691	1 880	2 346	2 235	2 461	3 128
47	1 460	1 506	1 789	1 892	2 439	2 313	2 523	3 253
48	1 393	1 560	1 905	1 928	2 531	2 398	2 588	3 385
49	1 368	1 621	2 038	2 067	2 624	2 492	2 691	3 513
50	1 312	1 685	2 170	2 162	2 716	2 595	2 835	3 640
51	1 429	1 761	2 303	2 289	2 809	2 707	2 954	3 768
52	1 520	1 842	2 435	2 370	2 901	2 830	3 044	3 895

TABLE XIX. *The Equation of Life, representing a term of Years, for which there is an equal probability of Living.*

Ages	Soldo	Resido	Total Army Bombay	England and Wales—Males	Glasgow—Males
21	16 177	30 697	21 534	43 110	29 122
25	16 100		23 635	40 308	27 710
30	15 278		22 717	36 187	21 611
35	11 403			32 635	21 713
40				28 787	19 007
45				21 978	16 363

TABLE XX. *The Equation of Life, representing a term of Years for which the probability of Living is two to one.*

Ages	Soldo	Resido	Total Army Bombay	England and Wales—Males	Glasgow—Males
21	9 179	20 563	14 771	32 313	21 595
25	9 776	19 861	11 181	30 670	19 113
30	9 181	18 217	11 302	27 699	16 969
35	8 586	16 391	11 152	21 751	11 819
40	8 236		12 393	21 679	12 696
45				18 616	10 933

TABLE XXI. *The Equation of Life, representing a term of Years, for which the probability of Living is three to one.*

Ages	Soldo	Resido	Total Army Bombay	England and Wales—Males	Glasgow—Males
21	6 786	11 601	10 387	26 013	16 413
25	6 770	11 661	10 251	21 267	15 102
30	7 070	11 071	10 105	22 127	13 016
35	6 211	12 735	9 319	19 827	11 231
40	5 728	10 653	9 058	17 375	9 591
45	7 000			14 877	8 160

TABLE XXII. *Mortality among the Military in various Countries.*

	Mortality in Cent	Colonel Tulloch
Dragoon Guards and Dragoon	1 53	Page 7
Foot Guards	2 16	, 9
Household Cavalry	1 45	, 10
Troops in Ireland	1 55	, 33.
French Army	1 95	33
Prussian Army	1 17	, 33
White Troops Gibraltar	2 20	, 6(a)
Black Troops,	6 20	, 17(a)
British Troops, Malta	1 87	, 22(a)
Troops in Ionian Islands	2 83	, 32(a)
Cape of Good Hope	1 55	, 21(b)
Canada	2 00	25(b)

